

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave. St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-020986**Date Inspected:** 24-Feb-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Bao Qian

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

ZPMC issued "Inspection Notification Sheet" number 08387 item #6 informing Caltrans QA that ZPMC is requesting ultrasonic inspections (UT) of OBG segment 13E complete joint penetration welds SA3067-002-023 and SA3066-001-023. This QA Inspector performed random visual and ultrasonic inspections of approximately 15% length of areas previously tested by ZPMC personnel and items observed by this QA Inspector appear to comply with AWS D1.5 UT requirements. For additional information on these inspections see this QA Inspector's TL6027 Ultrasonic Test Report and the photographs below.

This QA Inspector observed ZPMC welder Mr. Wu Wanyong stencil 050242 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 13AE welds SEG3007AH-025 and 027. This QA Inspector measured a welding current of approximately 310 amps and 26.0 volts. Mr. Wu Wanyong appeared to be certified to make his weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Wang Zhengbin, stencil 216086 used shielded metal arc welding procedure WPS-B-P-2213-B-U2-FCM-1 to make OBG segment 13AE weld SEG3007B-140. This QA Inspector observed a welding current of approximately 170 amps and electrical heating elements were used to preheat the base materials prior to welding. This QA Inspector observed Mr. Wang Zhengbin appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Gencheng, stencil 066418 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make weld repair of ultrasonic rejections to OBG segment 14E weld SEG3019V-003. ZPMC QC informed this QA Inspector that weld repair document B-WR-20270 documents this weld repair. This QA Inspector measured a welding current of approximately 185 amps and Mr. Yang Gencheng appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhao Guanglin, stencil 044779 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make weld repair of ultrasonic rejections to OBG segment 14E weld SEG3019V-003. ZPMC QC informed this QA Inspector that weld repair document B-WR-20270 documents this weld repair. This QA Inspector measured a welding current of approximately 200 amps and Mr. Zhao Guanglin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Kuai Wenshan, stencil 054013 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make weld repair of ultrasonic rejections to OBG segment 14E weld SEG3019V-003. ZPMC QC informed this QA Inspector that weld repair document B-WR-20270 documents this weld repair. This QA Inspector measured a welding current of approximately 200 amps and Mr. Kuai Wenshan appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Huang Hongpei, stencil 037705 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3011G-008. This QA Inspector observed a welding current of approximately 280 amps and 24.5 volts and Mr. Huang Hongpei appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhu Jibo, stencil 055564 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3007P-024. This QA Inspector measured a welding current of approximately 290 amps and 24.0 volts. This QA Inspector observed Mr. Zhu Jibo appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yuan Wensong, stencil 055491 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3007P-024. This QA Inspector measured a welding current of approximately 260 amps and 25.0 volts. This QA Inspector observed Mr. Yuan Wensong appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Xu Kesong, stencil 020009 used flux cored welding procedure WPS-B-T-2233-ESAB to make welds SEG3007AT-011 and 012. This QA Inspector observed ZPMC QC has recorded welding current of 260 amps and 26.0 volts. Mr. Xu Kesong appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Yunfeng, stencil 215553 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make repairs of OBG segment 14E weld DP3163-001-214. ZPMC QC informed this QA Inspector that weld repair document B-WR-20223 documents this weld repair. This QA Inspector observed a welding current of approximately 195 amps, the base materials appear to have been preheated with electric heating elements and Mr. Yang Yunfeng appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Guo Taotao stencil 050969 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make repairs of OBG segment 14E weld DP3161-001-018. ZPMC QC informed this QA Inspector that weld repair document B-WR-20250 documents this weld repair. This QA Inspector observed a welding current of approximately 160 amps, the base materials appear to have been preheated with electric heating elements and Mr. Guo Taotao appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Yong Shui, stencil 067656 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make repairs of OBG segment 14E weld DP3167-001-040. ZPMC QC informed this QA Inspector that weld repair document B-WR-20271 documents this weld repair. This QA Inspector observed a welding current of approximately 175 amps, the base materials appear to have been preheated with electric heating elements and Mr. Li Yong Shui appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Luo Xuanping, stencil 067610 used shielded metal arc welding procedure WPS-B-P-2114-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019R-159. This QA Inspector observed a welding current of approximately 175 amps. This QA Inspector observed Mr. Luo Xuanping appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Zujun, stencil 052696 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13AE weld SEG3007C-009. This QA Inspector measured a welding current of approximately 270 amps and 25.0 volts. This QA Inspector observed Mr. Li Zujun appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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### Summary of Conversations:

See Above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

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**Inspected By:** Dawson,Paul

Quality Assurance Inspector

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**Reviewed By:** Riley,Ken

QA Reviewer